

Polycarbonate



A true industrial thermoplastic, PC (polycarbonate) is widely used in automotive, aerospace, medical and many other applications. PC offers accuracy, durability and stability, creating strong parts that withstand functional testing. It also has superior mechanical properties to ABS and a number of other thermoplastics. When combined with Stratasys FDM (Fused Deposition Modeling) systems, PC gives you Real Parts[™] for producing design verification prototypes and manufacturing end-use parts. Refer to the FDM System Material Availability spec sheet for system availability and color options.

| Mechanical Properties ¹ | Test Method | Imperial | Metric |
|------------------------------------|-------------|-------------|------------|
| Tensile Strength, Type 1, 0.125 | ASTM D638 | 7,600 psi | 52 MPa |
| Tensile Modulus, Type 1, 0.125 | ASTM D638 | 290,000 psi | 2,000 MPa |
| Tensile Elongation, Type 1, 0.125 | ASTM D638 | 3 % | 3 % |
| Flexural Strength | ASTM D790 | 14,000 psi | 97 MPa |
| Flexural Modulus | ASTM D790 | 310,000 psi | 2,137 MPa |
| IZOD Impact, notched | ASTM D256 | 1 ft-lb/in | 53.39 J/a |
| IZOD Impact, un-notched | ASTM D256 | 5 ft-lb/in | 266.95 J/a |

| Thermal Properties | Test Method | Imperial | Metric |
|---------------------------------------|-------------|-----------------------------|-----------------------------|
| Heat Deflection Temperature @ 66 psi | ASTM D648 | 280° F | 138° C |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | 261° F | 127° C |
| Glass Transition Temperature (Tg) | DMA (SSYS) | 322° F | 161° C |
| Coefficient of Thermal Expansion | | 3.8E-05 in/in/F | |
| Melt Point | | Not Applicable ² | Not Applicable ² |

| Other | Test Method | Value |
|-----------------------------|-------------|------------|
| Specific Gravity | ASTM D792 | 1.2 |
| Rockwell Hardness | ASTM D785 | R115 |
| Flame Classification | UL 94 | V2, 1.1 mm |
| Dielectric Strength kV/mm | IEC 60112 | 15 |
| Dielectric Constant @ 60Mhz | IEC 60250 | 3.17 |
| Dielectric Constant @ 1Mhz | IEC 60250 | 2.96 |

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions. Tested parts were built on Titan Ti, 0.010 inch slice (0.245mm).

¹ Build orientation is on side edge. ² Do to amorphous nature, material does not display a melting point.

For more information about Stratasys systems and materials, contact your representative at +1 888.480.3548 or visit www.stratasys.com

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